# MISSOURI SOLUME 81, ISSUE 7, JULY 2020 SERVING NATURE & YOU CONSERVATIONST





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Deception — including false eyes — helps spicebush swallowtail caterpillars survive to adulthood.

by Noppadol Paothong

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Anglers test their skills against record-breaking fish.

by Francis Skalicky

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## MISSOURI CONSERVATIONIST



#### ON THE COVER

Spicebush swallowtail caterpillar

#### **O** NOPPADOL PAOTHONG

100mm macro lens, f/11 1/200 sec, ISO 160

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Shawn Carey, Les Fortenberry, Marci Porter

#### **PHOTOGRAPHERS**

Noppadol Paothong, David Stonner

#### CIRCULATION MANAGER

Laura Scheuler

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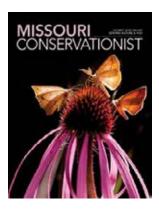




#### **Letters to the Editor**

Submissions reflect readers' opinions and may be edited for length and clarity. Email Magazine@mdc.mo.gov or write to us:

MISSOURI CONSERVATIONIST PO BOX 180 JEFFERSON CITY, MO 65102



#### NIGHT SHIFT Wonderful

informative story:
Spreading Life in
the Darkness [May,
Page 10]. Kudos
to the author/
photographer Dan
Zarlenga. Give him
more assignments!

**David Franz** Branson

#### **MORE ON THE NIGHT SHIFT**

Thank you for the excellent article on nocturnal pollinators. The photos were beautiful and I especially appreciate the "spotlight" on the light pollution problem, which is affecting so much of our wildlife. As with most threats, everyone needs to work together to mitigate it, and your suggestions for actions anyone can take were most helpful.

Elizabeth Stoakes Lee's Summit

I always look forward to finding your magazine in the mail each month, but I especially loved the article *Spreading Life in the Darkness*. Zarlenga's photography was absolutely stunning, and it made me look at my flowers in a new way! Thanks for a great magazine that continues to open my eyes to the natural wonders all around.

Lisa Strader St. Charles

#### **UP FRONT**

As a nearly 60-year young, lifelong resident of this great state, I stand in awe of Sara's column in the May issue [*Up Front*, Page 3]. It's the first thing I read every month. Her direction and deepness are a precious gift for the future. You go, girl!

James Cobb St. Peters

There are many reasons to appreciate the May issue of the *Conservationist*. I urge a reread of the director's *Up Front* essay. It is an appropriate recognition of the reflective strength to be found in the solitude of nature. The beauty of the world of nature inspires us to deal with the everyday challenges of today. Faith in the future will prevail!

Andy Dalton Springfield

#### **STATE NURSERY**

I want to tip my hat to the Missouri Department of Conservation Tree Seedling program at the

George O. White State Forest Nursery. The trees I received this year were planted and they appear to be doing well. I try to order a variety of trees each year and I am always pleased with the seedlings they provide and the success I have growing them.

I began planting trees in the early 1970s as part of a Vocational Agriculture Program at Advance, Mo. The pine trees I planted then are still growing tall today.

I believe you are blessed if you can stand in the shade of a tree you planted.

Michael Davis Bloomfield

#### FOR THE LOVE OF READING

I am a 94-year-old transplant from California who lives in a city apartment. I don't fish. I don't hunt. I don't have land. I don't walk the nature trails. I don't have any children to educate. I'm not a birdwatcher. But I find your magazine the most interesting, informative, beautiful magazine I have ever read.

Margaret Wolf Springfield

#### **CORRECTION**

In the June issue, the picture used in *What Is It?* [Page 8] was misidentified as wood nettle (stinging nettle). It was actually a picture of false nettle (*Boehmeria cylindrica*), which has nonstinging hairs.



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#### Have a Question for a Commissioner?

Send a note using our online contact form at mdc.mo.gov/ commissioners.

#### Want to see your photos in the Missouri Conservationist?

Share your photos on Flickr at flickr.com/groups/mdcreaderphotos-2020, email Readerphoto@mdc.mo.gov, or include the hashtag #mdcdiscovernature on your Instagram photos.



- 1 | Green Rock Trail at Rockwoods Reservation by Jason Rulo, via email
- 2 Orchard spider by Seth Jackson. via Flickr
- 3 | Smallmouth bass by westbymatthew, via Instagram





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# Front with Sara Parker Pauley

Often when I read stories about huge record fish (see Page 22), my mind instantly wonders about the angler. What's her story? What fuels his love of fishing? What did it feel like to finally realize a record fish was on your line?

I love masters of their craft, especially in the conservation world. Charlie Campbell was one. He reminded me of a darkhaired Jimmy Stewart, tall and lanky, a genteel spirit, a wizard at bass fishing and making friends. When he passed away a few months back, I was reflecting on the day he took me fishing on Bull Shoals Lake to show me how to "walk the dog" and how that Zara Spook lure danced across the water's surface. All I could do was watch in awe at this puppeteer and his dancing puppet.

"We must be willing to let go of the life we planned so as to have the life that is waiting for us," said Joseph Campbell, a well-known American professor of literature. And Charlie did just that. He said goodbye relatively early in a very successful career as a high school basketball coach to try his hand at a career few had heard of — a professional tournament fisherman. Decades, and a legendary life later, an inductee into the Bass Fishing Hall of Fame and Missouri Sports Hall of Fame, he can be assured he made the right call.

Charlie reminds me to keep living my best story, to keep chasing those dreams. The big "fish" are out there for us all.

SARA PARKER PAULEY, DIRECTOR

SARA.PAULEY@MDC.MO.GOV

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Printed with soy ink



# Nature LAB

by Bonnie

Each month, we highlight research MDC uses to improve fish, forest, and wildlife management.

#### INVASIVE SPECIES MANAGEMENT

# Asian Longhorned Beetle Survey

What's black with white spots and long, curved antennae?

"The Asian longhorned beetle!" said MDC Forest Entomologist Robbie Doerhoff.

MDC is asking Missourians who own swimming pools to keep an eye out for this invasive forest pest in July and August.

Why swimming pools?

"They're basically giant insect collectors, trapping anything that falls in," Doerhoff said.

The adult beetles are cool-looking insects, but their larvae tunnel under the bark and into the heartwood of native trees, eventually killing them. The Asian longhorned beetle is currently devastating trees in parts of Massachusetts, New York, and Ohio.

"The goal is to keep them out of Missouri, but if they are here, we want to know about it," Doerhoff said.

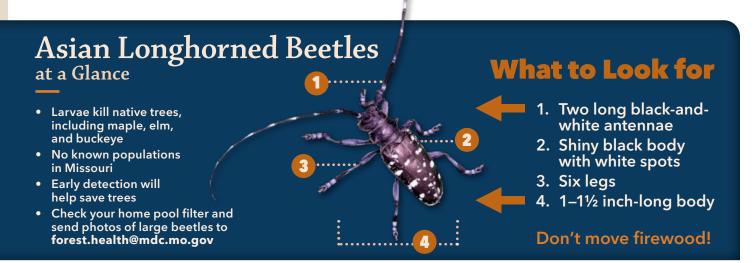
"While this pest can be stopped, thousands or even hundreds of thousands of trees may be cut down in



MDC asks homeowners to check swimming pool filters and email photos of large beetles the process," Doerhoff said. "Finding an Asian longhorned beetle infestation early means fewer trees will be removed. In an urban area, this is especially important because trees benefit communities in many ways, from storm water mitigation to savings on home energy costs."

Asian longhorned beetle infestations in other states have been the result of the beetle's larvae hitching a ride in the wood packaging material used to secure heavy freight during shipping from Asia. It's also a pest that can hitchhike in firewood, allowing this tree-killer to move long distances during a weekend camping trip.

"Our Asian longhorned beetle pool survey is a total citizen-science effort. Throughout the months of July and August, we're asking people with pools to check their filters and email us photos of large beetles they find," Doerhoff said.



#### News and updates from MDC

# In Brief



# MDC FINALIZES BLACK BEAR **MANAGEMENT**

AS BEAR NUMBERS INCREASE, MDC WORKS WITH PARTNERS AND THE PUBLIC TO PLAN FOR THE FUTURE

→ Over the last 50 years, bear numbers in the Missouri Ozarks have increased significantly, and today Missouri is home to between 540-840 black bears. Missouri's bear population is part of a larger population of several thousand bears distributed throughout the Ozark mountains of Missouri, Arkansas, Oklahoma, and the Ouachita mountains of Oklahoma and Arkansas.

Bears in Missouri occupy large tracts of forest land in the southern third of the state, primarily south of I-44. As the bear population continues to grow, bear range in the state is expanding and bears are becoming increasingly more common in areas that have not had bears for many years.

With the growing black bear population, MDC takes an active approach to bear management, which includes extensive research of our bear population, a detailed Be Bear Aware education campaign, and response and mitigation related to human-bear conflict. Additionally, MDC recently updated the state's Black Bear Management Plan, which will guide bear management over the next 10 years. The Black Bear Management Plan's goals, objectives, and strategies focus on the multifaceted nature of bear management and were developed with staff, agency partners, and public input.

The goals of the Black Bear Management Plan are:

Goal 1: Use science-based methods to manage a self-sustaining population of black bear, focusing on research and monitoring, population management, and habitat management.

Goal 2: Increase statewide awareness of Missouri's black bear population and management program through coordinated outreach and education.

Goal 3: Minimize and address human-bear conflicts.

The Black Bear Management Plan and additional information regarding black bear management, including information on a proposed hunting season framework, can be found at mdc.mo.gov/bears.

#### In Brief



#### WILD WEBCAST: ATTRACTING BACKYARD WILDLIFE

Interested in attracting birds, bees, and other wildlife to your backyard? Join MDC at noon July 1 for a Wild Webcast on Attracting Backyard Wildlife. MDC Urban Wildlife Biologist Erin Shank, Powder Valley Conservation Nature Center, will explain the basics of creating backyard wildlife habitat; the importance of native plants for pollination, wildlife food, and other benefits; planning and designing native plantings; attracting birds; supporting pollinators such as butterflies and bees; and more. Register at short.mdc.mo.gov/Zht. Learn more about property improvements to attract wildlife at short.mdc.mo.gov/Zmt.

#### **APPLY FOR MANAGED DEER HUNTS**

Beginning July 1, deer hunters can apply online for a chance at more than 100 managed deer hunts at conservation areas, state and other parks, national wildlife refuges, and other public areas throughout the state. The hunts, held from mid-September through mid-January, are for archery, muzzleloaders, and modern firearms. Some managed hunts are held specifically for youth or for people with disabilities.

The managed deer hunt application period is July 1-31. Hunters are selected by a weighted random drawing. Draw results will be available Aug. 15 through Jan. 15. Applicants who are drawn will receive area maps and other hunt information by mail.

Get more information on managed deer hunts, preview hunt details, and apply starting July 1 at mdc.mo.gov/managedhunt.

Details about managed hunts can also be found in the 2020 Fall Deer & Turkey Hunting Regulations and Information booklet, available starting in early July at MDC offices and nature centers, from permit vendors around the state, and online at mdc.mo.gov.

## Ask MDC

#### **Got a Question for Ask MDC?**

Send it to AskMDC@mdc.mo.aov or call 573-522-4115, ext. 3848.

Q: While repotting a chamomile, I discovered what appeared to be a chrysalis. Shaped like a capsule, it was made of tiny leaves that had been painstakingly torn and placed under the dirt. When I picked it up, a bee flew out! Do you know what type it was?

It seems you came across the work of a leafcutter bee. Leafcutter bees are in the family Megachilidae, along with mortar, resin, and mason bees. Most leafcutter bees nest in preexisting holes in wood or in the soil. Female leafcutter bees cut neat round or oval-shaped pieces out of leaves, which they use to construct nests.

Although we cannot confidently identify the species of the bee, since all that remains is the nest, it's possible it was the flattailed leafcutter bee, Megachile mendica. Known to occur in Missouri, this bee also sometimes nests in soil.

Leafcutter bees often prefer to make their nests in preformed holes, such as hollow stems or holes in manmade structures. By providing a solitary bee nesting box, it may be possible to encourage these insects to nest in a more-favorable location. For more information on how to purchase or build a "bee hotel," visit: extensionpublications.unl. edu/assets/pdf/g2256.pdf.



Q: Last summer, I put three Japanese beetle traps on limbs extending over our 2-acre pond, hoping to attract the male beetles, which would then drop into the water and become fish food. I noticed a grass carp patrolling the area and feeding on beetles struggling on the pond's surface. I thought carp were strict herbivores. Is my observation unusual?

Fisheries biologists would rate your observation as unusual, but not unheard of. Grass carp are indeed herbivores. However, it's very possible they would take advantage of an easy alternative food source, especially if edible vegetation in the pond is limited. They are caught on earth worms and catfish food occasionally, as well.

Young grass carp feed mainly on small crustaceans and other invertebrates, but when they're about 8 inches long, they shift mostly to aquatic vegetation. This species has a voracious appetite



and can eat more than the equivalent of its body weight in a day. Interestingly, their digestive system is not efficient, so about half of the food passes through undigested.

#### Q: What kind of moth is this?

→ Named for their spots, giant leopard moths (Hypercompe scribonia) are adept at camouflage. They are seen blending into speckled concrete, coarse tree bark, black-and-white carpeting, and other mottled gray surfaces.

They prefer forests and woodlands, and can be found from southern Canada to Florida and Texas.

As caterpillars, they consume an array of forbs and woody plants, including: cherry, dandelion, oak, maples, sunflowers, violets, and willows. They're reclusive during the day, preferring to hide in leaf litter and under loose bark. But they emerge at night to feed. They have black bristles and red or orange bands between their seaments. which become noticeable when they roll into balls for defense.

As moths, they have a wingspan of 3 inches and are nocturnal.





**Kyle Clinton** CRAWFORD COUNTY **CONSERVATION AGENT** offers this month's

## **AGEN**1 **ADVICE**

Summer is upon us and so is our nation's birthday. To celebrate, many people will head to their nearest conservation area to enjoy water activities, picnic, and relax with family and friends. Before you head out, be informed and know before you go! Check out short.mdc.mo.gov/Z4V or download MDC's new MO Outdoors app (available free on Android or iPhone platforms). Users can quickly and easily find out which outdoor activities, like camping, are available at local areas. Always be mindful of litter. If there are trash bins available, use them. If not, pack out all your trash. Leave areas cleaner than when you arrived. Fireworks are never allowed on conservation areas. Celebrate the summer with us, safely and respectfully.

## What IS it?

Can you auess this month's natural wonder?

The answer is on Page 9.

## WE ARE CONSERVATION

Spotlight on people and partners

by Larry Archer

### Diana Nacy

→ For Diana Nacy, the way to sharing her passion for nature and the outdoors began in 2016 with the Field to Fork Program. The program, hosted at the Anita B. Gorman Discovery Center, teaches people how to prepare wild edibles. It was there that Diana was bitten by the volunteering bug. After helping with several Field to Fork programs, she expanded the scope of her volunteering to include children's programs and school groups.

#### From fork to field

In addition to volunteering, Field to Fork also led Diana to expand her own outdoor experiences. Already an avid angler, hiker, and nature photographer, she added hunting to her resume, heading afield with her husband, Omar Jawdat, for upland game bird hunting.

"She has a lot of knowledge," said former MDC Education Specialist James Worley, who coordinated the Field to Fork program Diana attended. "She's actually been fishing and hunting, and appreciates nature, so having that background knowledge on how hunting and fishing are tools for conservation is really critical."

#### In her own words

"When I got engaged with the Field to Fork program, I realized I could give back to the community and share those experiences — or share my passion — with kids and other adults, exploring and appreciating the outdoors and outdoor activities."

**by Cliff White** 



What's your conservation superpower?

#### **CELEBRATE SAFELY**

As you celebrate the Fourth of July, MDC reminds everyone to be careful with fireworks, campfires, and other sources of fire that could cause a wildfire.

#### **Fireworks**

Don't light fireworks in any areas where the sparks could ignite dry grass, leaves, or other potential fire fuel. Always have an approved fire extinguisher and an available water supply to douse sparks or flames. Wet the area around where fireworks are being discharged. Check with local ordinances and authorities for bans on fireworks and open burning.

#### **Outdoor Burning**

Don't burn during the wrong conditions. Dry grass, high temperatures, low humidity, and wind make fire nearly impossible to control. Check with local fire departments regarding burn bans that may be in place. A person who starts a fire for any reason is responsible for the damage it may cause.

#### **Driving Off-Road**

Wildfires can start when dry fuel, such as grass, comes in contact with catalytic converters. Think twice before driving into and across a grassy field. Never park over tall, dry grass or piles of leaves that can touch the underside of a vehicle. When driving vehicles off-road, regularly inspect the undercarriage to ensure that fuel and brake lines are intact and no oil leaks are apparent. Always carry an approved fire extinguisher on vehicles that are used off-road. Check for the presence of spark arresters on ATV exhausts.

#### **Making a Campfire**

Clear a generous zone around fire rings, and store unused firewood a good distance from a campfire. Never use gasoline, kerosene, or other flammable liquid to start a fire. Keep campfires small and controllable. Keep fire-extinguishing materials, such as a rake, shovel, and bucket of water, close. Extinguish campfires each night and before leaving camp, even if it's just for a few moments.

#### **Call for Help**

Call 911 at the first sign of a fire getting out of control.

#### **Report Forest Arson**

Wildfires are sometimes set by vandals. Help stop arson by calling 800-392-1111 and reporting any potential arson activities. Callers will remain anonymous and rewards are possible.

#### **Prescribed Fire**

Fire used in the wrong way can create disasters. Used in the right way, fire can help create habitat for wildlife. For more information on using prescribed fire as a land-management tool, visit mdc.mo.gov/prescribedfire.

#### **WHATISIT? GOLDEN MAYFLY**

The golden mayfly, usually found near water, is just one of hundreds of similar species in North America. Its four extensively veined wings are held upright together, much like a butterfly. The forewings are longer and often overlap the hindwings. Adult golden mayflies only live a few days. Once they reach an adult, winged stage, they cannot eat or drink. Their only function is to reproduce.





DECEPTION — INCLUDING FALSE EYES — HELPS SPICEBUSH SWALLOWTAIL CATERPILLARS SURVIVE TO ADULTHOOD

story and photographs by Noppadol Paothong



f you asked me about monarch butterflies 15 years ago, I wouldn't have been able to tell you much. It was just several years ago I became more aware of monarch butterflies and milkweeds, the only host plants for monarch caterpillars. My family and I started planting more milkweeds in our backyard and other areas, and my interest in native plants has grown ever since, including native plants for pollinators. Little did I know that I still needed to pay close attention to not only native plants to help attract varieties of pollinators but also other types of host plants that most of us overlook.

#### The Orange Snake

My first encounter with this peculiar caterpillar happened on a late summer evening a couple years ago as I was walking in the woods and was startled by what I thought was an orange snake with large eyes on its bulging head.







With wings open, the female butterfly displays her iridescent blue scales, while male scales are shiny pale green.

Upon closer inspection, I discovered that it wasn't a snake, but was in fact a caterpillar sporting large false eyes on its body.

Even though I was familiar with many different butterfly species, I didn't know much about this caterpillar. After some quick research, I found that it was a very common species of butterfly in Missouri: a spicebush swallowtail. After my first encounter, it became my new mission to learn more about this mysterious, little-known native butterfly caterpillar of Missouri and the host plant that it needs.

#### Spicebush and Sassafras

Most people are not aware of this, but butterflies are host plant specific. Just like the monarch butterfly, which depends on milkweeds as a host plant for its caterpillars, the spicebush swallowtail lays eggs exclusively on plants in the Lauraceae family (Magnolia order), which includes spicebush (Lindera bezoin) or sassafras (Sassafras albidum), and depends on these host plants for their survival. Once females lay eggs on a suitable host plant, the caterpillars that hatch from the eggs feed on the plant's leaves.

The spicebush swallowtail ranges throughout the eastern United States, but is more common in the south. You can find this butterfly in most places in Missouri — except the northwestern part of the state — especially in woodland areas, swamps, stream banks, and residential gardens. In a typical year, two to three broods are produced. Spicebush swallowtails do not migrate south in wintertime. Rather, they overwinter or stay in diapause in the form of a chrysalis and emerge in the following spring season.

Spicebush swallowtails are large black butterflies with iridescent bluish hindwings in females or greenish in males. There are usually light spots near the edge of the forewings and orange spots on the underside of the hindwings. There are three other black swallowtails in Missouri: black swallowtail (Papilio polyxenes), pipevine swallowtail (Battus philenor), and the black form of the female eastern tiger swallowtail (Papilio glaucus).

#### **One-minute Courtship**

From April to early September, when there is ample food for the larvae, males stay near nectar plants or host plant sites to find females. When a female appears, the male flies toward her and performs a brief courtship ritual, lasting less than a minute. If the female is receptive to the courtship, mating occurs. After mating, females search out host plants using visual and chemical cues by smelling or tasting them with their forelegs. They then lay eggs on the undersides of the leaves.

Laying Eggs: Females use both visual and chemical cues when finding host plants on which to oviposit her eggs. After landing on a plant, a female confirms the plant as a host plant by drumming the surface of a leaf with her forelegs.

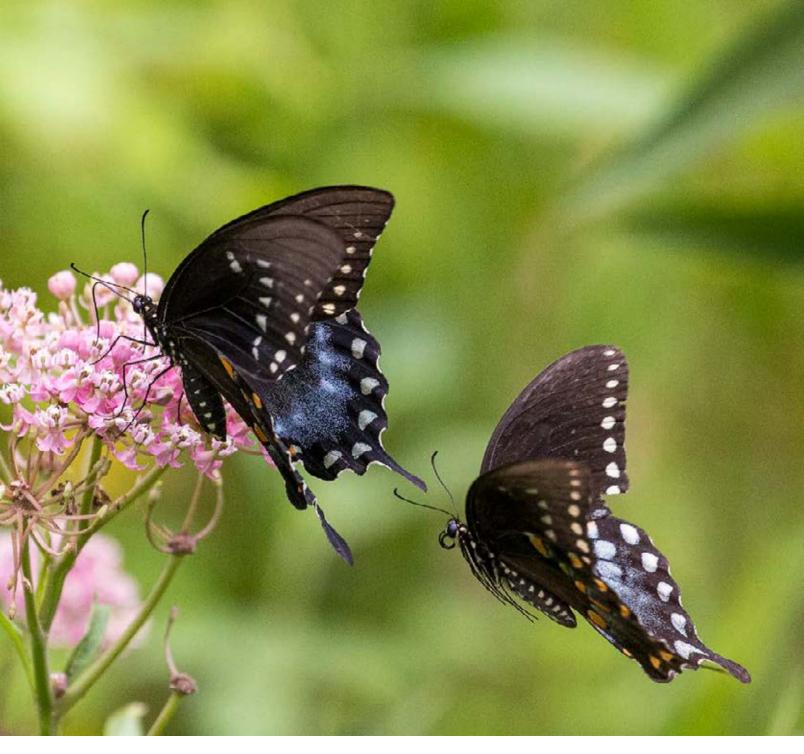
The Egg: Eggs are spherical and greenish-white or white in color and transparent. After four to 10 days, larva is visible shortly before hatching. A tiny caterpillar emerges by chewing its way out of the egg. Once emerged, it will consume the shell.





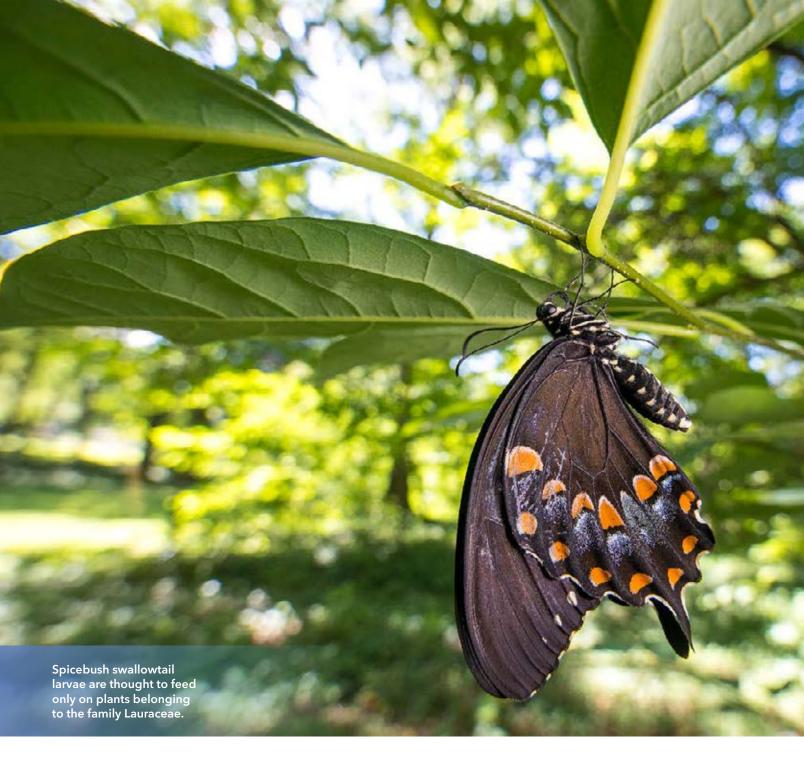
1st Instar: First instar caterpillars are small and a brownish/greenish/bronzelike color. The caterpillars typically rest on the center-most vein of a leaf.







**2nd Instar:** Second instar caterpillars start to show other markings and coloration, including the fake eyespots.











**3rd Instar:** Third instar caterpillars look pretty much the same as 2nd, but bigger. The fake eyespots are more visible, though. The color and physical appearance of the caterpillar changes with each molt. The young caterpillar is brown and glossy.

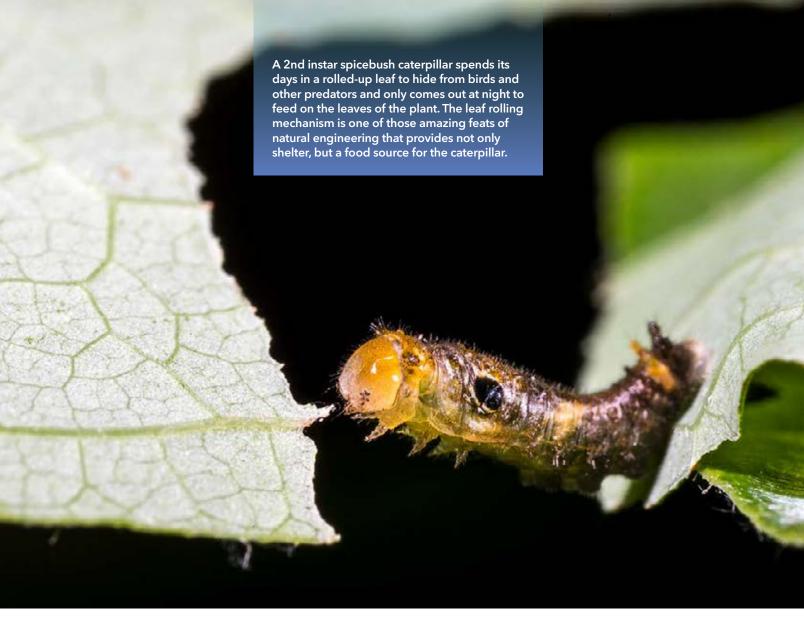
5th Instar Green: Spicebush swallowtail caterpillars, bright green with numerous blue spots, have secondary fake eyespots that are yellow. Their bottom half is pinkish. When viewed from a certain angle, they resemble a snake to ward off predators.

4th Instar: As it grows and matures, the caterpillar turns greenish with blue dots. Too big now to pass for a bird dropping, the caterpillar's green skin allows it to blend in among the plant leaves.

**5th Instar Orange: Before they** pupate, spicebush swallowtail caterpillars turn a bright yellow color.









Spicebush swallowtail caterpillars in different instars. One of the earlier stages of the caterpillar, in which it is camouflaged to look like bird droppings. Then making itself look like a snake with fake eyespots. The spicebush swallowtail's entire life cycle is marked by camouflage and visual deception.



#### **Visual Deception, Minimal Detection**

The life cycle of the spicebush swallowtail caterpillar is marked by visual deception and hiding from detection. The earlier stages of the caterpillar are camouflaged to look like bird droppings. In later stages caterpillars develop two pairs of false eyespots on their body, which are believed to be a mimicry of either green snakes or tree frogs.

Unlike monarch caterpillars that feed on milkweed incessantly until they reach a chrysalis stage, spicebush caterpillars spend the day in a rolled-up leaf — hiding from predators — and only come out at night to feed on the leaves. They attach threads of silk on either side of the leaf, and as the silk dries, it pulls the leaf around the caterpillar making a perfect shelter. This simple way of rolling a leaf as a shelter is one of the amazing ways that they've adapted for survival.

When disturbed, hornlike organs appear behind the caterpillar's head, and it releases a disagreeable odor, which helps repel some potential predators.

Before pupation, full-grown larvae cease feeding and turn to a yellow color. These prepupae retain the yellow color during the pupation process. The prepupae wander off the host plants to pupate. Pupation is usually near the ground on slender stems among leaves.





When the caterpillar is ready for the next phase, it turns pale yellow and hangs from twig by spinning a silk thread around itself. Except for overwintering pupae, it typically takes a caterpillar 10-20 days to become a butterfly.



An overwintering chrysalis covered in snow. Diapause is basically the insect's version of hibernation. The longer nights and cooler temperatures in October will trigger the caterpillar to become a chrysalis and wait until spring to emerge.



#### **Habitat Help**

Even as adapted as spicebush swallowtail caterpillars are, they are still preyed on by many predators, such as spiders, dragonflies, and robber flies. Many birds also eat the adult swallowtail butterfly. However, like many other wildlife, the greatest threats they face come from the loss of habitat, climate change, and lack of host plants.

You can help them by planting their host plants, mainly spicebush, which play a crucial role in their survival. In addition to having the right host plants, plant natives to attract the spicebush swallowtail butterfly, such as milkweed, purple coneflower, and others.

As a nature photographer, I've spent many years learning and observing wildlife and nature. But the spicebush caterpillar taught me that nature requires lifetime learning. I also started paying much more attention to host plants and changing the landscape — even on a small scale — to benefit wildlife. I am happy to report that after my first encounter with that spicebush caterpillar, I've planted many spicebush plants in my yard and other areas, and I've found many caterpillars on those plants.

Even in a small area, we can create a much-needed habitat for pollinators by changing the way we think about our lawn and its usage. A lush green lawn, while giving us an illusion of green space, provides very little use to wildlife, such as butterflies, bees, or other pollinators. We can all make a difference in the natural world. By planting a variety of host and nectar plants for butterflies, you can turn your garden into a much richer habitat that not only satisfies your needs, but also benefits the health of our natural world by attracting many different species of butterflies and bees. A





Black, accented with brilliant white spots, a spicebush swallowtail butterfly is one of many species of butterflies in Missouri that adapted to more woodland habitat.

Noppadol Paothong has served the Missouri Department of Conservation as a staff photographer for the past 14 years. He strives to help people connect with conservation issues that he cares deeply about. For over a decade, he has documented the North American grassland grouse and shared his work to raise awareness of their fragile habitat.

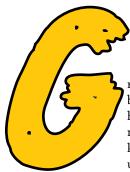
# CHASING MA MONSTERS

ANGLERS TEST THEIR SKILLS AGAINST RECORD-BREAKING FISH

by Francis Skalicky | illustrations by Shannon Beaumont

The river redhorse, a member of the sucker family, can be found in pools of clear, medium- to large-sized streams with rocky bottoms and strong currents. They are most often taken by snagging or gigging, but can be taken by pole and line. The largest recorded in Missouri weighed 17 pounds.





reg Bernal had hooked big fish before, but when the deep-water denizen that had strained his line and limbs for 30 minutes finally splashed into view, he knew July 20, 2010, was going to be an unforgettable date.

"When he broke the surface, I couldn't believe how big he was," the Florissant man recalled of that memorable night of fishing on the Missouri River in St. Louis County. "My heart was pounding. It was a total adrenaline rush."

By the time he boated the blue catfish, Bernal had a hunch his huge haul was something special. A call to an MDC fisheries biologist, a trip to a certified scale, and some follow-up checking confirmed that Bernal's 130-pound behemoth blue was, indeed, a first-of-its-kind catch — not only for Missouri, but for the entire world.

Bernal's memorable catch is no longer a blue catfish poleand-line world record (it was surpassed 11 months later by a 143-pound catch in Virginia), but it is still a state record — one of 68 entries that comprise MDC's State Record Fish Program. This program acknowledges and honors anglers who have caught the largest recorded fish (by weight) from a list of recognized species found in Missouri waters. There are two categories for each species — "pole and line" is for catches made via rodand-reel and "alternative" encompasses trotlines, throwlines, limblines, bank lines, jug lines, spearfishing, snagging, snaring, gigging, grabbing, archery, and atlatl.

"While our State Record Fish Program has its formal processes, the goal is really to recognize people that fish and build excitement for fishing," said Andrew Branson, MDC Fisheries outreach specialist, the person who oversees the program.

#### A Davierse Mus

Missouri's list of 68 is a diverse mix. Some record-holders, such as the 140-pound, 9-ounce paddlefish caught in 2015, are prodigious, while others, such as the 2-ounce red spotted sunfish, caught in 1991 that holds the alternative methods record for that species, are pint-sized. Some are well-known species, like the 21-pound, 1-ounce walleye caught in 1988. Others, like the 1-pound, 6-ounce highfin carpsucker, caught by alternative methods in 2011, are not-so-well-known. Some records, such as the 13-pound, 14-ounce largemouth bass caught in 1961 that still tops Missouri's pole-and-line category for that species, are long-standing. Others, like the seven new records that went on the list in 2018, have a much shorter history.

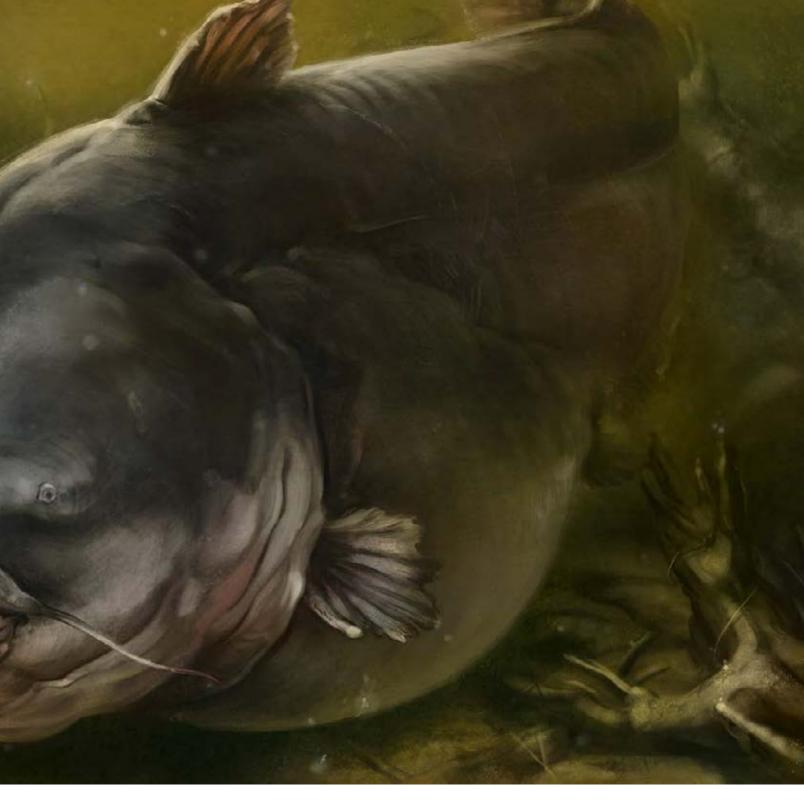
Branson said the variety contained in this list is a clear indicator of something anglers have known for a long time — conservation makes Missouri a great place to fish.

"Fish do not grow large and thrive if their habitat is not right," Branson said. "A fish reaching state-record size is evidence that conditions are good for that species. The combination of sound fishing regulations, fisheries management based on science, and the actions of conservation-minded citizens create the right conditions for fish to thrive."



"Good-weather conditions seem to play the biggest role in creating years where lots of records are broken."

—Andrew Branson MDC Fisheries outreach specialist



#### PERFECT TIME

Some years of Missouri fishing have been more record-setting than others. Fifteen records were set in 2016; two years earlier only three were set.

"Good-weather conditions seem to play the biggest role in creating years where lots of records are broken," Branson said. "For example, a wet spring when we received plenty of rain that kept our rivers and lakes full, giving fish plenty of food and numerous areas to spread out. Mild summers allow many anglers to take advantage of the comfortable conditions and

fish more. So, when the weather is great and more anglers get out and on the water, that's when we see state records broken."

#### What Makes A Regord Fish

Seeking and celebrating the biggest catches has long been part of fishing's lure and Missouri is no different. There are mentions of state-record fish dating back to the 1950s, but no formalized certification process existed at the time and as a result, details of those early record catches are sketchy. Missouri's process for determining state-record fish has evolved over the decades and



today's process involves much more than flopping a big fish on a scale and smiling for a camera. Among the criteria a fish must meet to be considered for state-record status in Missouri are:

- It must be taken by legal methods from Missouri waters.
- It must be a species included on Missouri's state-record fish list.
- It must be weighed on a certified scale in the presence of an employee of the Missouri Department of Conservation.
- It must be examined and identified by an MDC fisheries biologist or conservation agent familiar with the species with certainty.
- If necessary, genetic testing will be done by MDC at no cost to the applicant.

Branson said the genetic testing is an example of the level of scrutiny MDC uses to make sure the fish being submitted is truly a record. He recalls a 2018 incident in which a bow fisherman submitted what he thought was a world-record (and, consequently, a state record) shortnose gar. The large fish's upper jaw was broken off and, thus, shortened, and the intact lower jaw appeared to be consistent with that of a shortnose gar. However, the fish showed other characteristics that were more consistent with a longnose gar. A fin clip was taken, genetic tests were done, and it was concluded that the fish was not a pure shortnose gar. It was either a hybrid (the two species can interbreed), or a longnose with a broken upper jaw and an abnormally short lower jaw.



Branson said those "sorry-but-it's-not-a-record" calls are always hard to make. However, MDC's fish recognition process does have a nice alternative prize.

"In those instances, after explaining the disappointing reality that they cannot apply for a state record, we inform the angler that the fish may qualify for a Master Angler Award. Missouri's Master Angler program recognizes the accomplishments of anglers who catch memorable fish in Missouri and is for fish that meet a minimum length or weight by MDC." This award is based on the word of the person and the fish does not need to be viewed or weighed by an MDC representative. People earning a Master Angler Award receive a printed certificate recognizing that particular catch.

#### ANTERESTING FISH TALES

While overseeing the state's record fish program, Branson has been involved in some interesting situations. He recalls the time an angler caught what he thought was a state-record fish and, later that day, his partner, who was fishing in the same boat, caught an even larger fish of the same species. When they got off the water, the anglers contacted MDC staff, who confirmed that both fish were larger than the current state record for that species. While processing the applications, it was discovered that the angler who had made the second catch did not have a fishing permit and was fishing illegally. Thus, the state-record application for the larger fish was denied. The first angler's catch earned state-record status, but all the second angler received was a ticket for fishing without a permit.

#### PLAN FOR THE UNEXPECTED

Though Branson said most records are caught by accident, he said anglers should keep in mind that the potential to reel in a record exists any time an angler casts his hook into the water. Consequently, he said it's good for anglers to remember:

- They can always contact their local conservation agents.
   Agents are available seven days a week.
- The fish does not need to be alive. If anglers think they have a record, they should place the fish in a refrigerator or freezer in an air-tight bag to prevent drying out and weight loss and contact an MDC representative at their earliest convenience.
- · Fish must be totally thawed for weighing.
- Potential record fish may be frozen (after they have been weighed), but they should not be consumed or mounted prior to receipt of the letter that confirms the record.

"On more than one occasion, we have received a call from a person saying that they caught a potential state-record fish," Branson said. "They sometimes even have the weight of the fish taken with their own scale. When we tell them that we need to meet with them to see the fish and weigh it on a certified scale, the response is 'Oh, I already ate it."

Catching a state-record fish is a once-in-a-lifetime achievement for some anglers. However, Branson said some anglers follow the old adage that records are made to be broken.

"Most records seem to be caught by people who never planned or expected it," he said. "However, there are people who look at the state record list and target a particular record they think they can beat."

Bernal said he's targeting his own record. Though he admits his 130-pound blue catfish was memorably large, he believes something larger is still swimming beneath the water's surface somewhere in Missouri.

"As big as the rivers are, with some of the monsters I have hooked into but could not even begin to handle, I guarantee there are many big monster blues in the river system," Bernal said. "Who will be lucky enough to catch the next monster?" **\( \rightarrow \)** 

Francis Skalicky has been the media specialist for MDC's Southwest Region since Jan. 1, 1996. He lives in Springfield and tries to enjoy the outdoors with his family as often as possible.

# Get Outside

in JUI Ways to connect with nature



Jelly Time
Wild plums are ripe this month. Known

as the best fruit plum in the Midwest, wild plums make excellent jams and jellies. If you want to make a batch, you better get to them in a hurry. Birds, deer, raccoons, and squirrels also enjoy these juicy fruits.

### A Star is Born

Prairie blazing star blooms in July. These purple blooms grow on unbranched stalks and can be found statewide in glades, upland prairies, ledges and tops of bluffs, savannas, openings of upland forests, ditches, fencerows, pastures, railroads, and roadsides. Where will your star be discovered?



Nighttime Nature Symphony In late July, sit outside at night and just

listen. Outdoor Missouri sounds like a symphony, and its loudest solo act is the katydid. Listen as the katydids sing their familiar song, "Katy did, Katy didn't." It is the hottest sound of the summer!

to See This Month

in the natural world.



**Prairie** 



Blackeved Susans



**Great blue** herons begin fledging

**Natural Events** 

Here's what's going on



## Guess Who's Coming to Dinner

Are there more hummingbirds at your feeder? These pint-sized birds are preparing for migration, so they need all the fuel they can get. Be sure and have your feeders ready. To make nectar, mix one part white table sugar with four parts water.

Carry a Big Stick
Take a hike in the woods this month to

check out the wildflowers or to look for tasty chanterelle mushrooms. But be warned spiders are building webs between trees at eye level. Carry a stick on your journey so you don't get caught in their webs. Orb weaver



Timber rattlesnakes hunt mostly at night



Black bears feast on fruits and insect larvae



# Places to Go

KANSAS CITY REGION

## Taberville Prairie Conservation Area

Just what the doctor ordered by Larry Archer

Given the stress many people have been under, a walk through the sandstone glades, wildflowers, and songbirds of St. Clair County's Taberville Prairie Conservation Area (CA) could be just what the doctor ordered.

Even though any time spent in nature is beneficial, this 1,680-acre prairie claims an additional healthcare connection, said Taberville Prairie CA Manager Stasia Whitaker.

"There is a Taberville," Whitaker said. "It's a small town just south of Taberville Prairie, and it was named after the first town doctor, who was Dr. Taber."

Much of the area is remnant prairie, which means it's never been plowed, leading to its designation as one of Missouri's natural areas, she said.

"About 1,300 acres is the natural area portion of Taberville Prairie, so it does get a lot of use in terms of birdwatching," she said. "Photography is a popular pastime for a lot of people, and hiking."

In addition to the birds, July is also a prime time for many of the area's wildflowers, she said.

"You're going to see a lot of blazing star, pale purple coneflower, and compass plant, some of your landmark species," she said. "Your prairie species are really going to be showy this time of year."



"It's a remnant prairie, unplowed, which is very special. It's a shale- and sandstone-derived prairie, so it's very rocky, which basically saved it from the plow. A person out hiking will notice the outcrops, there are lots of sandstone outcrops across the prairie."

-Taberville Prairie CA Manager Stasia Whitaker





#### TABERVILLE PRAIRIE CONSERVATION AREA

consists of 1,680 acres in St. Clair County. From El Dorado Springs, take Route H north 12 miles.

38.0474, -94.0023

short.mdc.mo.gov/ZmU 417-876-5226

#### WHAT TO DO WHEN YOU VISIT



**Birdwatching** Included in the National Audubon Society's Taberville Prairie Plains Important Bird Area (short.mdc.mo.gov/Zhh). Included in the Great Missouri Birding Trail (short.mdc.mo.gov/Zhe). The eBird list of birds recorded at Taberville Prairie CA is available at short.mdc.mo.gov/Zhn.



#### **Hunting Deer** and turkey

Deer and turkey regulations are subject to annual changes. Please refer to the Spring Turkey or Fall Deer and Turkey booklets for current regulations.

Also dove, quail, and rabbit 

#### **DISCOVER MO OUTDOORS**

Users can quickly and easily find outdoor activities close to home, work, or even while traveling with our free mobile app, MO Outdoors. Available in Android or iPhone platforms at mdc.mo.gov/mooutdoors.



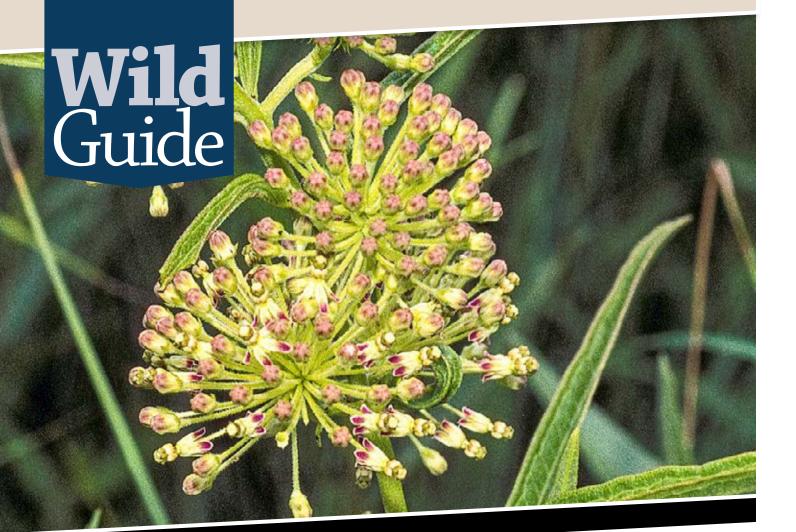
WHAT TO **LOOK FOR** WHEN YOU **VISIT** 











## Prairie Milkweed

Asclepias hirtella

Status Common

Size 1-3 feet **Distribution** 

Northwestern two-thirds of the state

rairie milkweed, also known as tall green milkweed, is a perennial herb. Its small, delicately purple-tinged flowers bloom from May through August in round clusters. Its distinctive stalk, filled with milky sap, has an interesting geometry, with crowded arrangements of narrow, lance-shaped leaves. Like most other milkweeds, prairie milkweed bears pods, holding numerous seeds, each with a parachute of silky hairs.



#### **Did You Know?**

Prairie milkweed, with its subtle colors yet exciting round floral clusters, can be a showpiece in native wildflower gardens. In its preferred habitat of prairies, glades, and pastures, prairie milkweed blooms can resemble bursts of fireworks. Once renowned for medicinal purposes, milkweeds are now being planted to help the declining monarch population.



#### **ECOSYSTEM CONNECTIONS**

Prairie milkweed serves as an important food source for many insects. Monarch butterfly larva consume the plant's sap, which makes them unpalatable to predators. Many bees, skippers, and other species of butterflies drink nectar from the flowers, and crab spiders often hide in the clusters, hunting them.

# Outdoor Calendar

MISSOURI DEPARTMENT OF CONSERVATION &



#### **FISHING**

#### **Black Bass**

Impounded waters and non-Ozark streams: Open all year

Most streams south of the Missouri River: May 23, 2020–Feb. 28, 2021

#### **Bullfrogs, Green Frogs**

June 30 at sunset-Oct. 31, 2020

#### **Nongame Fish Gigging**

Impounded Waters, sunrise to sunset:

Feb. 16-Sept. 14, 2020

Streams and Impounded Waters, sunrise to midnight:

Sept. 15, 2020-Feb. 15, 2021

#### **Paddlefish**

On the Mississippi River: Sept. 15—Dec. 15, 2020

#### **Trout Parks**

Catch-and-Keep:

March 1-Oct. 31, 2020

Catch-and-Release:

Nov. 13, 2020-Feb. 8, 2021

For complete information about seasons, limits, methods, and restrictions, consult the *Wildlife Code of Missouri* at **short.mdc.mo.gov/Zib**. Current hunting, trapping, and fishing regulation booklets are available from local permit vendors or online at **short.mdc.mo.gov/ZZf**.



#### Free MO Hunting and MO Fishing Apps

MO Hunting makes it easy to buy permits, electronically notch them, and Telecheck your harvest. MO Fishing lets you buy permits, find great places to fish, and ID your catch. Get both in Android or iPhone platforms at short.mdc.mo.gov/Zi2.

#### **HUNTING**

#### **Bullfrogs, Green Frogs**

June 30 at sunset-Oct. 31, 2020

#### Covote

Restrictions apply during April, spring turkey season, and firearms deer season.

Open all year

#### Crow

Nov. 1, 2020-March 3, 2021

#### Deer

#### Archery:

Sept. 15-Nov. 13, 2020 Nov. 25, 2020-Jan. 15, 2021

#### Firearms:

- ► Early Youth Portion (ages 6–15): Oct. 31–Nov. 1, 2020
- ► November Portion: Nov. 14–24, 2020
- ► Late Youth Portion (ages 6–15): Nov. 27–29, 2020
- ► Antlerless Portion (open areas only): Dec. 4–6, 2020
- ► Alternative Methods Portion: Dec. 26, 2020—Jan. 5, 2021

#### Dove

Sept. 1-Nov. 29, 2020

#### Elk

#### Archery:

Oct 17–25, 2020

Firearms:

Dec 12-20, 2020

#### **New Elk Hunting Season**

MDC will offer Missourians the state's first elk-hunting season in modern history starting this fall. Learn more at short.mdc.mo.gov/Znd.

#### **Groundhog (woodchuck)**

May 11-Dec. 15, 2020

#### **Pheasant**

Youth (ages 6–15): Oct. 24–25, 2020

Regular:

Nov. 1, 2020-Jan. 15, 2021

#### Quail

Youth (ages 6-15): Oct. 24-25, 2020

Regular:

Nov. 1, 2020-Jan. 15, 2021

#### **Rabbit**

Oct. 1, 2020-Feb. 15, 2021

#### Sora, Virginia Rails

Sept. 1-Nov. 9, 2020

#### **Squirrel**

May 23, 2020-Feb. 15, 2021

#### Teal

Sept. 12-27, 2020

#### Turkey

#### Archery:

Sept. 15-Nov. 13, 2020 Nov. 25, 2020-Jan. 15, 2021

#### Firearms

▶ Fall: Oct. 1–31, 2020

#### Waterfowl

See the Migratory Bird and Waterfowl Hunting Digest or visit short.mdc.mo.gov/ZZx for more information.

#### Wilson's (Common) Snipe

Sept. 1-Dec. 16, 2020

#### Woodcock

Oct. 15-Nov. 28, 2020





Follow us on Instagram
@moconservation

July begins the dog days of summer — the hottest days of the season. Even this raccoon knows it's a good time to seek out your nearest body of water and engage in an activity to keep cool. So, grab your fishing poles and lures. Dust off those kayaks and canoes. It's hot out and the water feels fine. For help finding a destination, visit **short.mdc.mo.gov/Z4V**.

**1** by **Noppadol Paothong**